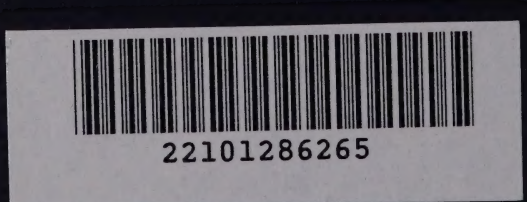
THE ORIGIN AND DEVELOPMENT OF THE GLASGOW SCHOOL OF MEDICINE: FROM MAISTER PETER LOWE TO SIR WILLIAM T. GAIRDNER

A. FREELAND FERGUS.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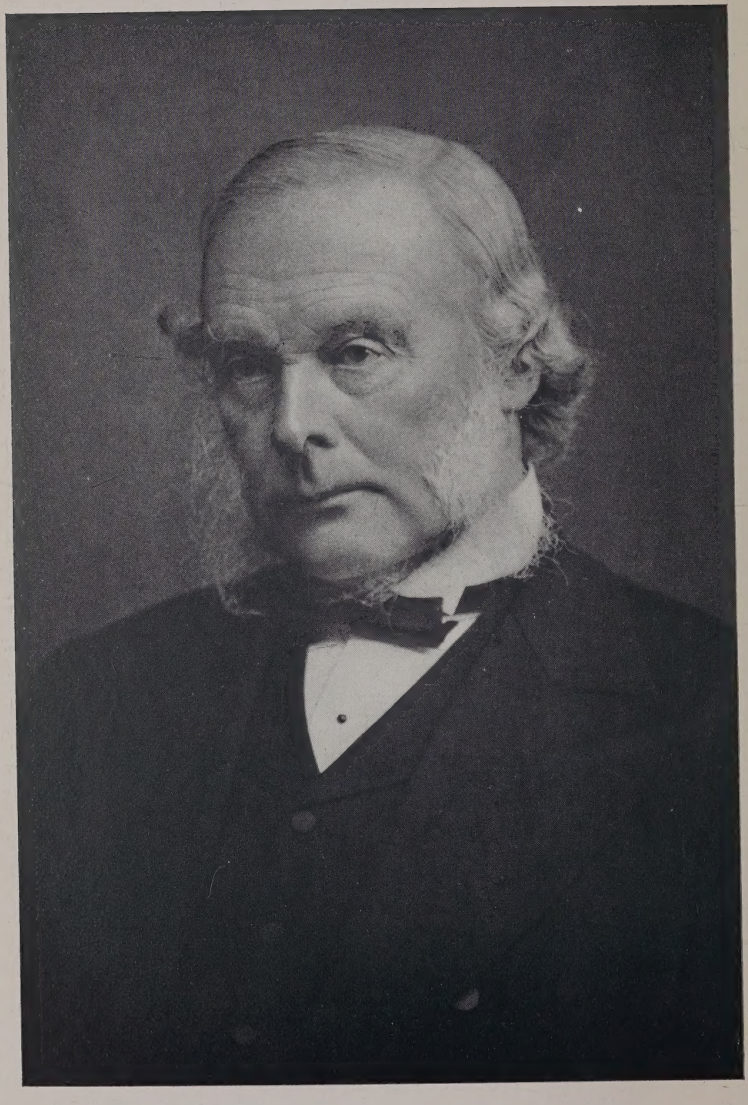

LORD LISTER.

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THE ORIGIN AND DEVELOPMENT

OF THE

GLASGOW SCHOOL OF MEDICINE:

From Maister Peter Lowe
To Sir William T. Gairdner.

Presidential Address

DELIVERED TO THE MEDICO-CHIRURGICAL SOCIETY OF GLASGOW
6th OCTOBER, 1911.

BY

A. FREELAND FERGUS, M.D., F.R.F.P.S.G.,

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TO

Dr. A. LEWIS M'MILLAN,

FOR NEARLY TWENTY YEARS
A VALUED AND LOYAL
COLLEAGUE.

LIST OF ILLUSTRATIONS.

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THE ORIGIN AND DEVELOPMENT

OF THE

GLASGOW SCHOOL OF MEDICINE:

FROM MAISTER PETER LOWE TO SIR WILLIAM T. GAIRDNER.[1]

GENTLEMEN,—In the first place allow me to convey to you my very cordial thanks for the honour that you have done me in electing me to the presidentship of the Glasgow Medico-Chirurgical Society. May I say just in a word that I am very deeply touched by your generosity, and am profoundly grateful? My appreciation of your kindness is considerably augmented by the knowledge of the facts that my father once occupied the position to which you have now advanced his unworthy son, and that the long list of presidents contains the names of many men who were amongst the most distinguished in the ranks of Glasgow practitioners, some of them my old teachers and others my esteemed and respected friends.

I am well aware that a position such as this involves

[1] Reprinted from the *Glasgow Medical Journal*, November, 1911.

certain responsibilities, and these I shall endeavour to meet to the best of my ability, but I am glad to think that the actual and successful working of this Society largely depends upon the secretaries, the treasurer, and the other members of Council. I feel confident that during my term of office I shall have much pleasure in co-operating with the other office-bearers of the Society, and I know that I may rely on their valued support and help in conducting its business.

The Glasgow Medico-Chirurgical Society seems to me to be essentially different in some of its aims from several other similar organisations in the city. Up till now it has pursued the policy of discussing solely questions concerning the practice of medicine or of surgery or of one of the allied sciences—I mean by that, that so far as I have observed it seems to have steered clear of the questions of medical politics. Nor do I think that its members meet together so very largely for social intercourse as is the case in some of the other Glasgow societies. It may therefore, not unjustly, be regarded as the Glasgow society which, *par excellence*, devotes itself to the scientific side of medicine and of surgery and of the other branches of medical practice. Medical organisation is a perfectly legitimate and, I think, at this time of day an absolutely necessary phase of medical life, and no doubt we are all agreed as to the great advantages to be derived by medical men meeting each other in a friendly and free spirit and discussing matters of medical polity or of medical practice with each other. Such phases of life are entirely good and beneficial to the members of the profession. While there are so many societies and organisations in and around Glasgow whose functions are chiefly, or at any rate very largely, the consideration of these aspects of medical life, it is not inappropriate that one society, at any rate, should be entirely devoted to the study of the strictly scientific side of practice.

Never was there a time when surgery and medicine

promised to become more nearly exact sciences than the present. Never was there a time when medical practice in all its branches rested less upon empiricism and more upon the data furnished from the scientific laboratories; and therefore it seems to me thoroughly good that this Society should still serve its great function of affording its members an opportunity of comparing notes with each other as to the progress of medicine. For some years back many gentlemen engaged in scientific researches in the local laboratories have used this Society for the diffusion of the knowledge which they have there obtained; and, on the other hand, industrious and persevering clinicians have, through its medium, given to their fellow practitioners information as to their work. I earnestly trust that both sets of scientific workers will continue during my term of office, as in the years gone by, to give us of their best. As already said, I am very pleased to be the chairman of such a society, and I am deeply grateful to you for your generosity.

One of the duties belonging to the chairman is, I understand, to give a short introductory address. While admitting that the chief function of this society is the diffusion of scientific knowledge, and although I personally hope, while in this chair, to listen to much that is helpful and useful in everyday practice, I thought that for the subject of this address, at any rate, we might take something lighter than a discussion on some aspect of medical practice, and therefore I ventured to think that a short account of the rise and progress of the Glasgow school of medicine, beginning with Maister Peter Lowe and ending with Sir William Tennant Gairdner, might not be uninteresting to the members. One of my worthy predecessors in this chair, my old fellow student Dr. Walker Downie, took the opportunity of his presidentship to give a detailed and most interesting account of the history of the Society, and it seems to me that it may not be altogether unprofitable if I attempt something in the

way of a short *résumé* of the development of medical life in this my native city.

The ancient city of Glasgow is, in modern times, chiefly known for its commercial prosperity and for its municipal organisation. The casual stranger passing through its midst can observe nothing but the bustle of the place, the well-built offices, and numerous other manifestations of industrial prosperity. Even its streets are smoke-begrimed because of its commercial importance. If he penetrate a little further than the parts usually seen by a stranger, he might also find an unduly large proportion of what can only be called the most degrading poverty; but if he avoided these districts, as most visitors do, he might on a casual glance not unjustifiably come to the conclusion that the place is wholly given to idolatry, and that the golden calf, as in Horeb of old, is a prominent feature in the life of the citizens of Glasgow. But things are not always what they seem, and however diligent our citizens may be in the pursuit of the various avocations which form the chief features in an industrial community, there are various other sides of Glasgow life which are as really part of her true self as is her industrial activity. Thus, for example, those who know the facts of the case are well aware that there has always been, and we trust always will be, an unusual amount of large-hearted benevolence towards the poor, the miserable, and the degraded. Few cities have, in proportion to their size, as many voluntary associations for improving the people as has the city of Glasgow.

In the matter of the Fine Arts Glasgow does not lag behind. Her picture gallery is justly esteemed as one of the best in the British Islands, and if due care be taken as to the selection of paintings it may even attain a still greater repute. If that be done, then I venture to think that Glasgow's Art Gallery will not only be one of her most important means of educating and civilising the masses, but also it will attract many visitors to the town who otherwise would pass it by.

If further evidence of the status which the Fine Arts have obtained in the city of Glasgow were wanted we have only to mention the recent developments of the exquisite school of painting which is known all the world over as "the Glasgow School," and of its annual Fine Art Exhibition and its large art academy.

In other lines of intellectual progress Glasgow is well to the front. There is scarcely a department of manufacture or of the application of science to commercial pursuit in which her citizens have not borne an important share. Whatever may be the future of her University, and we cannot help doubting that ripe scholarship will be the result of modern tendencies, her past is little else than glorious. At all times she has possessed men of great eminence in the varied departments of her activities. To recall only a few of the names which have made her famous, we have William Ramsay, Daniel Sandford, Edmund Law Lushington, and R. C. Jebb in the department of classical literature; in the philosophic sciences, Adam Smith, Thomas Reid (the founder of the Scottish School of Philosophy), and Edward Caird were all men of the first rank; in the mathematical and physical sciences there must be mentioned Simpson the geometrician, Thomas Thomson (who is said to have been the introducer of modern chemical notation and equations), M'Quhorn Rankin, and Lord Kelvin. In the schools outside of the University there have been a host of men who have duly contributed their quota to the world's progress, such as James Watt, Fredrick Penney, William Dittmar, Robert Napier, and many others who perhaps ought to be named.

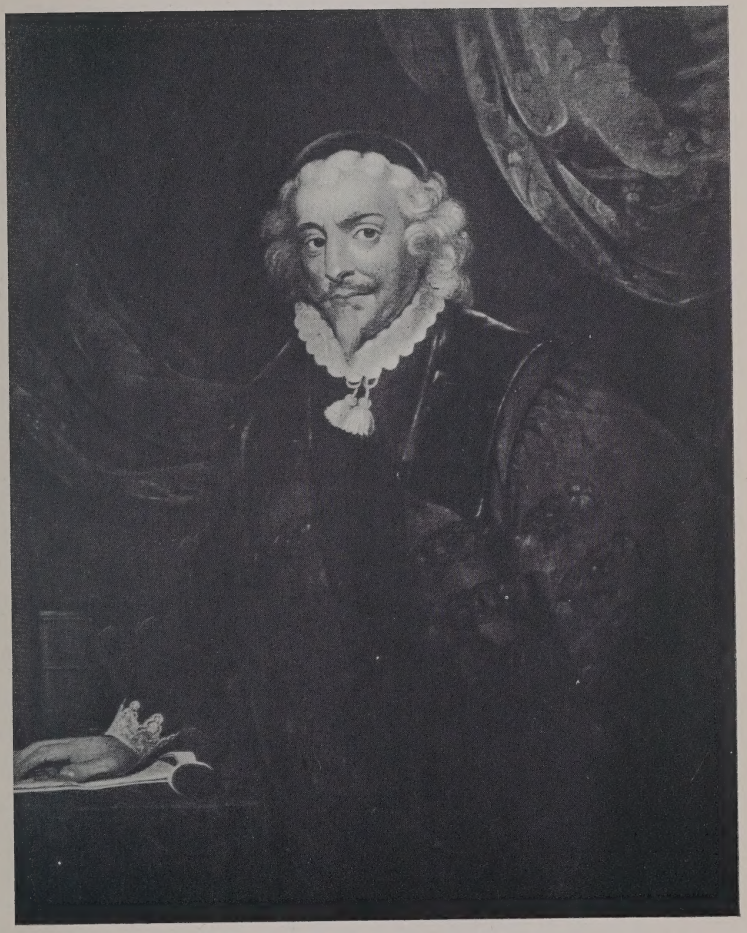
In the foregoing summary I have purposely left out the profession of medicine, for I intend to make it the subject of this short communication.

Once upon a time I was discussing Scottish matters with a learned professor in France, and he confessed to me his entire ignorance of the existence of any medical school in Scotland

outside that of Edinburgh. The glory and fame of the Edinburgh school had very naturally and properly reached his ears, but odd to state, he was wholly unaware that there was a large and well-equipped school of medicine within the city of Glasgow. Before entering into any details, I may here say that I venture to think that in the sixties when Joseph Lister, a graduate of London, taught surgery in Glasgow; Allen Thomson, anatomy; William Gairdner, medicine; Andrew Buchanan, physiology; William Mackenzie, ophthalmology; John Easton, materia medica; and Harry Rainy, medical jurisprudence, that there was no school in the country so well equipped. William Hooker also was, slightly prior to that time, connected with the place as professor of botany.

The Glasgow school of medicine may be said to have started with Maister Peter Lowe, whose mortal remains were duly interred in the High Kirkyard. The grave may still be seen on the right hand side just as you enter the graveyard. To the late Dr. Finlayson we owe a very interesting monograph on Maister Peter Lowe, and so far as Lowe is concerned I desire to acknowledge my entire indebtedness to that contribution. No doubt, there were practitioners before his time in Glasgow, but he it was who obtained from James the Sixth a Charter of Incorporation founding the Faculty of Physicians and Surgeons in the city of Glasgow, and with that foundation Glasgow may be said to begin as a centre of medical effort and medical education; not only so, but Lowe was perhaps the first to publish in the English language a treatise on surgery. His work appeared in the year 1597, and of that I am able to show you from my own shelves a copy of the third edition. I do not intend to enter into any details as to the contents of Lowe's book.

It is a habit to study the ancients, and to find out that they were almost as thoroughly up to date as ourselves. To my

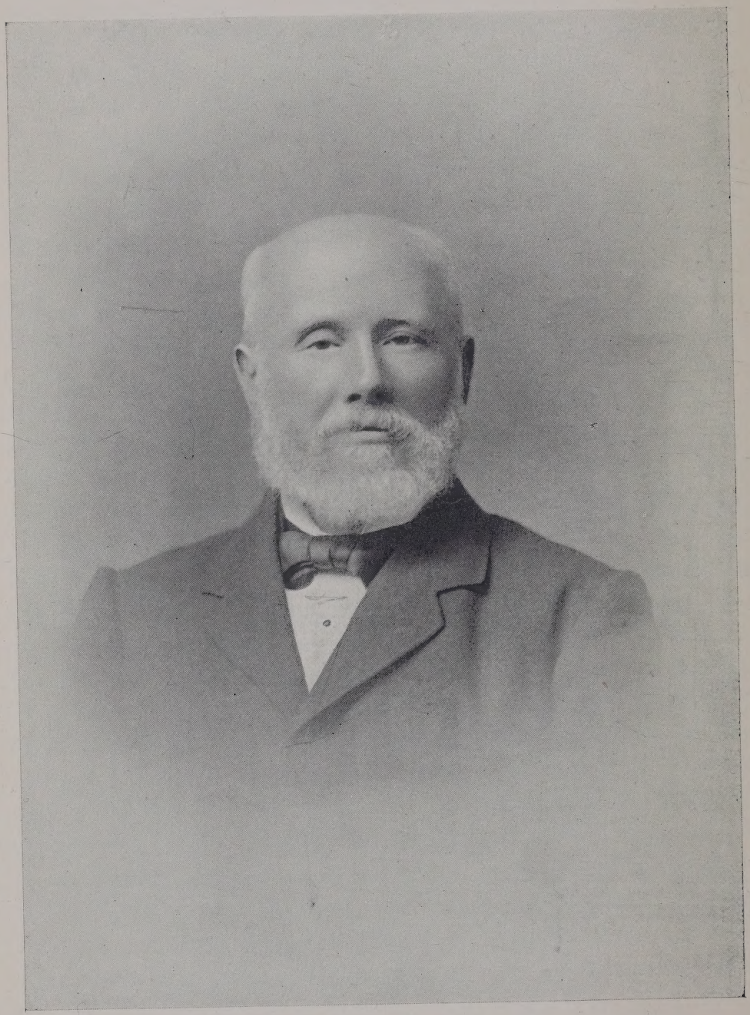


MAISTER PETER LOWE.

way of thinking there is no department of knowledge or of science, with the exception of engineering, in which this attitude of mind is less justifiable than medicine. I do not underrate the work of preceding generations; I do not underestimate the divine Hippocrates or Aristotle or Galen—their spirit was admirable. Conscientious investigation is always to be admired, but for me modern medicine began with William Cullen, modern surgery with Joseph Lister. I daresay it would be easy enough to find things in Dr. Lowe's book which are not altogether forbidden in modern practice, but modern practice cannot be said in any sense to rest upon him. His early manhood was spent abroad. He saw considerable service in France, Flanders, and elsewhere, and was Surgeon-Major to the Spanish regiments at Paris for two years. This gives us a fixed date, the siege of Paris having been 1589-1590. It is all but certain that he was in London in the year 1595, for in that year he published in London a book on the Spanish sickness. It is quite certain that he was in Glasgow in 1599, for the borough records contain a contract between him and the town, of date 17th March, whereby certain sums of money were to be paid to him for attending the poor of the town. Thirty years' absence in France and other countries had dimmed his perception of the efficacy of ecclesiastical discipline, but he was not long in being recalled to a sense of its power. Probably he had left Scotland while the Roman Church still held undisputed sway. He returned to find that his country had adopted the austerer form of worship which is associated with the names of Knox and Calvin. What the offence was we know not, but Lowe was sentenced by the Presbytery of Glasgow to stand on the pillar. The worthy doctor had evidently treated the whole thing as a joke, and had taken no notice of the modest request of the treasurer to pay up a fine, so the Presbytery met in its wrath and determined that as he had not satisfied the "thesaurer" of

the kirk, and not having behaved himself on the pillar, "as becomes," he was on two more Sundays to do his repentance on the said pillar, but first of all he was to pay up the money. Medical practice would seem to have been in a very bad way, for it attracted the attention of the Presbytery, and a joint committee of the Presbytery and Corporation and University was appointed to inquire into the matter and to report. The committee consisted of three bailies, three city clergymen, three University officers. Dr. Finlayson suggests that probably Maister Peter Lowe had something to do with this newly begotten desire for medical reform. Whether this committee reported or not to the Council or Presbytery I cannot say, but certain it is that almost immediately steps were taken to form a medical authority for Glasgow and the West of Scotland. The Charter obtained from James the Sixth was dated November, 1599, and it formed those practising medicine or surgery, or anything allied thereto within a specified district, into a sort of guild. The jurisdiction assigned was the borough and barony of Glasgow, Renfrew, and Dumbarton, and the sheriffsdom of Clydesdale, Renfrew, Lanark, Kyle, Carrick, Ayr, and Cunningham. It was in favour of Maister Peter Lowe, "our chirurgeon and chief chirurgeon to Our dearest Son, The Prince, with the assistance of Mr. Robert Hamilton, Professor of Medicine, and their successors and indwellers in our city of Glasgow." They had full power to call before them within the district above specified all persons professing or using the art of surgery and thoroughly to overhaul them. In the event of the candidates standing the tribunal they were to be admitted, allowed, and approved; they were to get certificates to that effect, and were to be allowed to superintend medical education and a kind of medical registration.

Amongst the duties of the newly appointed Faculty was that of visiting every "hurt, murthirit, poisonit, or onie other



ALEX. DUNCAN, LL.D.

persoun tane awa extraordinarily," and they were to report to the magistrate of the fact as it was. Without license from the Faculty or from a learned university where medicine was taught, or from the Royal physician, no person was allowed to practice in the said district. It was appointed in the original Charter that the Faculty was to meet on the first Monday of each month, for the purpose of visiting and giving advice to poor persons gratuitously. As a matter of fact the meetings still take place on the first Monday of each month at 4 o'clock, but many long years have occurred since any poor have appeared at the meetings for advice. That part of the function of the Faculty is now amply done by the various medical charities and by the poor law relief, yet the minute of the meeting invariably winds up with the phrase "the poor were visited gratis and the Faculty adjourned."

The history of the Faculty has been extremely well written by Dr. Alexander Duncan, its much respected and learned secretary, and the book of Mr. James Coutts on the University of Glasgow is of great value. These volumes, and particularly that of Dr. Duncan, throw many sidelights upon the old practitioners of our city, and I have availed myself to a considerable extent of the writings of these authors in the preparation of this address.

There were some medical men of the first distinction connected with the West of Scotland who were not personally intimately connected with the Glasgow school of medicine. I have only to mention the names of John Hunter, of William Hunter, of Matthew Baillie, and of Smellie to prove that some of the men whose fame and distinction were chiefly gained south of the Tweed were intimately connected with the West of Scotland. John Hunter, as is generally known, was born at Long Calderwood, in the parish of East Kilbride. He was the son of a small landed proprietor, and was the youngest child of a tolerably large family. He was born in the year 1728. Somehow his early education was neglected,

and thus it is said that at the age of 17 he was neither able to read nor write. That was the starting point of a man who was to become one of the greatest anatomists that Europe has ever seen, and whose last resting-place was to be Westminster Abbey. His early boyhood was entirely spent in his native parish, and after he settled in London he revisited it. His brother William, who had been a student of Arts in Glasgow, was scarcely less celebrated, but he was a man of a different mould. He had had the advantage of a University education; he was the intimate friend of Cullen, the man whom we have already called the founder of modern medicine. Indeed, Cullen had made an arrangement with William Hunter by which Hunter was to settle in Hamilton to practise with him as his partner. It was intended that Hunter was to engage chiefly in surgical practice, while Cullen was to confine himself more strictly to the work of a physician. It was deemed advisable that William Hunter should spend a year of study in London before settling in Hamilton. While there he got an appointment as a dissector to Douglas and remained in London ever after.

The property at Kilbride was at one time in William Hunter's possession. Matthew Baillie was a nephew of the Hunters, being the son of their sister Dorothy, who had married the Rev. Thomas Baillie, parish minister of Bothwell, and afterwards Professor of Divinity in the University of Glasgow. He was the brother of Johanna Baillie, the poetess, who is said to have spent a considerable part of her life at Kilbride, and to have written some of her works there.

Another name of distinguished West of Scotland practitioners which must not be forgotten is that of William Smellie, of Lanark. To Professor Glaister's pen we owe an excellent biography of his fellow townsman. He practised for some years in his native town of Lanark, but afterwards settled in London, where he attained a great and well-merited reputation. Smellie's library is still preserved in the town

of Lanark. It was for many a day—and, so far as I know, still is—stored in the Grammar School: an odd place for such a collection of books as Smellie's must have been.

As already stated, we regard William Cullen as the founder of modern medicine. He essentially belonged to the philosophic school of mind, and he looked at all problems brought before him largely from a philosophic standpoint.

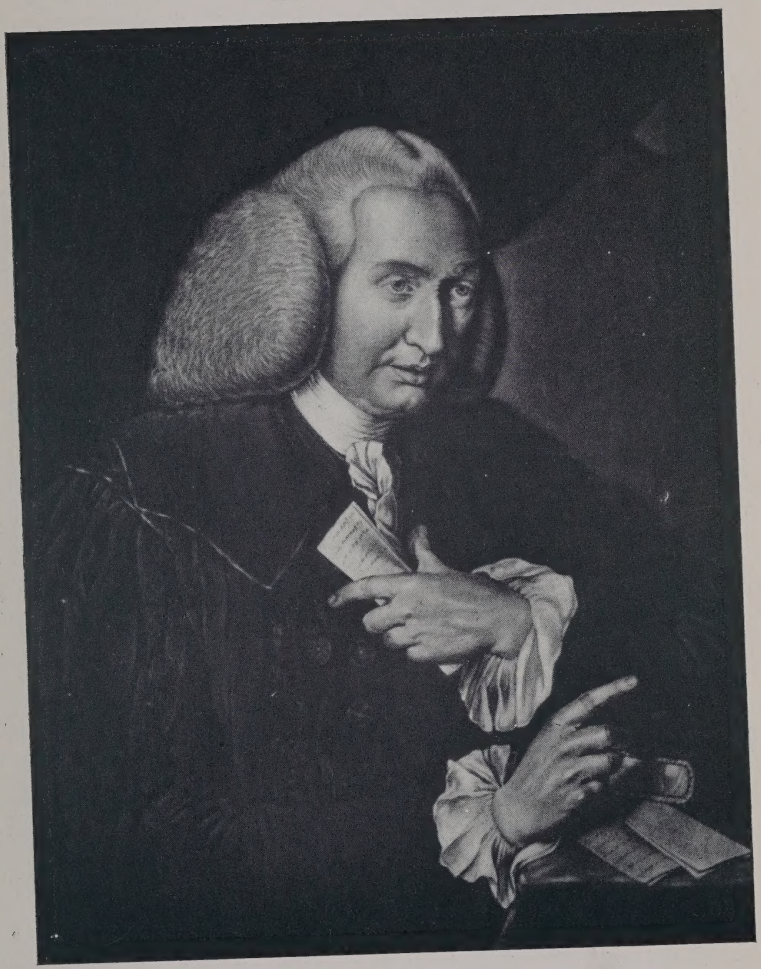
The rise and early progress of the Glasgow medical school almost entirely depended on William Cullen. He was born in Hamilton in 1710, his father being a lawyer in that town and factor to the then Duke of Hamilton. Before his time there had been some attempt to teach medicine, or at any rate some of the allied subjects, in the University of Glasgow. Thus in 1577 a *nova erectio* of James the Sixth provided for the teaching of physiology along with the supposed cognate subjects of geography, chronology, and astrology. Further, it is to be observed that in 1637 Robert Mayne was elected to be "ane Professoure of Medicine in the City Colledge." Mayne died in 1646, and his Chair died with him. In the Faculty Charter Robert Hamilton is intimated as Professor of Medicine, but, so far as I have been able to learn, he never had any official connection with the University, and was not a Professor of Medicine in the sense now understood by such a designation. Dr. Duncan gives the phrase "practising physician" as the equivalent of Professor of Medicine used in the Faculty Charter. Numerous reports were given from time to time, particularly in the year 1664, of the desirability of having a Chair of Medicine, and in 1704 a physic garden was started, with John Marshall, surgeon, as its keeper and lecturer on botany. It was not till 1714 that Dr. Johnstoun was appointed by the Faculty of the University as Professor of Medicine, but it is not certain that he ever gave any instruction on the subject. With the commencement of the eighteenth century the University began to give degrees in medicine, although not to teach the subject, for it was not

till the year 1714 that a Chair of Medicine was permanently founded.

In 1720 a Chair of Anatomy and Botany was established. The earlier occupants of these Chairs seem to have taken their duties very lightly, because Wodrow, the brother of the historian, said of the professor of medicine in his time that he "teaches little and prelects none." The professor of anatomy and botany was ordered to teach botany if five scholars entered and anatomy if ten students were enrolled. In 1720 Thomas Brisbane was appointed Professor of Anatomy, and also of Botany, and probably the foregoing remarks of Wodrow have some reference to the period of his administration. Brisbane seems to have had almost a dislike for the subject of anatomy, and although in 1727 he was peremptorily ordered to teach the subject if ten students entered, so far as we can learn the command had no effect. In 1730 Mr. Paisley relieved him of that part of his work.

It must be remembered that although Cullen was an M.D. of the University of Glasgow, his professional education was obtained by the old method of apprenticeship. This is not the place, nor have I the time, to compare the professional training now received with that of the old form of apprenticeship; but it must not be forgotten that most of the great lights of the eighteenth century, and even of the early years of the nineteenth, entered the profession of medicine in this manner. Cullen served his apprenticeship to the above-mentioned Mr. John Paisley, a gentleman who seems to have been a man of very enlightened views. He possessed an excellent library, to which his pupil had abundant access. After finishing his studies Cullen made a voyage to the West Indies, and then spent two years working in the rapidly advancing medical school of Edinburgh.

When these preliminary stages of his career were over, encouraged by the patronage of the Duke of Hamilton, he settled in the Ducal borough in the year 1736 to practise his



DR. WILLIAM CULLEN.

profession. The house in which Cullen practised is still standing at the corner of Castle Street and the New Wynd. While there he had working with him the celebrated William Hunter. His reputation became so great that in 1744, in response to the request of numerous families in and around Glasgow, he took up house in our city and began to practise. Almost immediately he commenced to give lectures, and these lectures were probably the first regular systematic teaching of medicine that had taken place in the city of Glasgow. He lectured on botany and physic, and on materia medica, and lastly on chemistry. Amongst his pupils was Joseph Black, and it was Cullen who directed his attention to the subject of latent heat.

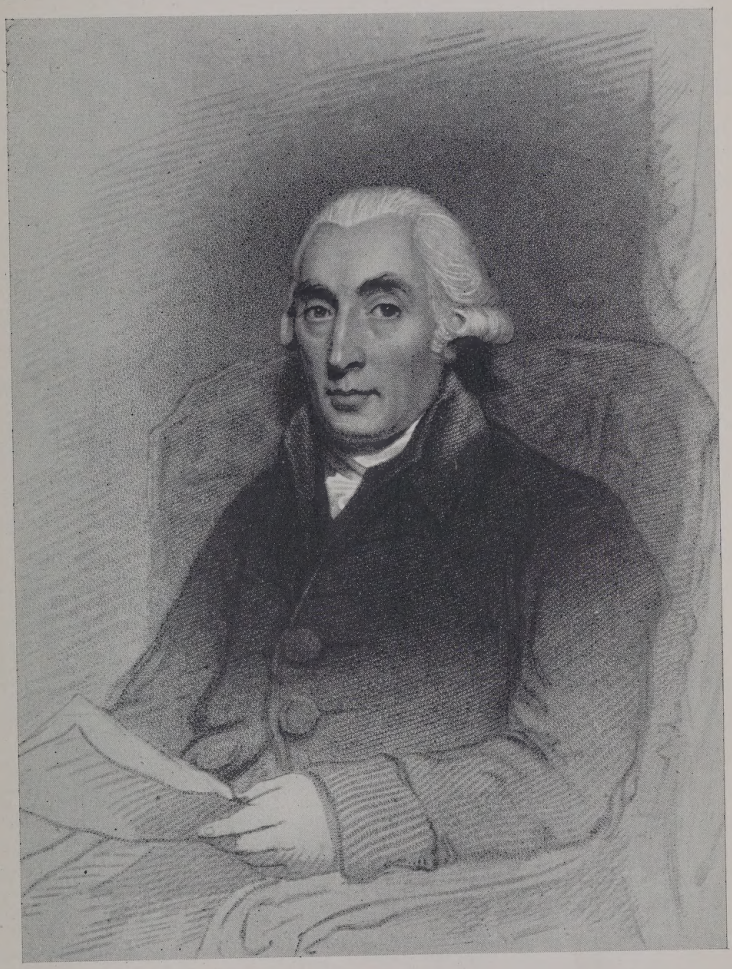
A vacancy occurring in 1758, Dr. Cullen was appointed to the Professorship of Medicine, and thus became no longer an extra-mural teacher, but a recognised professor in the University. Four years afterwards the Town Council of Edinburgh appointed him to the Chair of Chemistry in the University of that city. Here Cullen introduced into the Edinburgh school an epoch-making change, for he gave very special prominence to the teaching of clinical medicine. Up to that time such teaching as existed was almost entirely theoretic. Lectures were practically the sole means of university instruction; practical work, no doubt, was done under apprenticeship, but Cullen made it part of the university course to have regular bedside instruction, a change the importance of which cannot well be over-estimated.

Just as a physical laboratory is necessary for the proper elucidation of physical subjects, so bedside work is necessary for medical teaching, and there are those amongst us with whom I have considerable sympathy who think, in these days of good text-books, that attendance at systematic lectures should be almost altogether voluntary, and that the compulsory work should be very largely practical.

Ultimately, as we have already said, he became Professor of the Practice of Physics in Edinburgh. In his old age he purchased a small estate, and spent a great part of his leisure in personally cultivating it. He died in 1790, aged 79.

Practically all his important medical publications were issued during the period of his life in Edinburgh. The one which perhaps was the most important from the medical point of view was his *Nosology*, or attempted classification of diseases. That is a book still referred to by many students and teachers of medicine. The late Sir William Gairdner always began his instruction on medicine with Cullen, for he regarded his *Nosology* as what may be called the starting point of the new period. His great merit seems to have been that he swept aside almost entirely what we may well call the scholastic rubbish, and looked at Nature as seen in disease with his own eyes and for himself. The influence of Cullen was very great, and his insistence on the study of clinical medicine in the school of Edinburgh gave that school a pre-eminence which it has never lost.

Amongst the Glasgow pupils of Cullen was Joseph Black. He was born in Bordeaux, where his father was at the time engaged in the wine trade. The fame of Cullen attracted him to Glasgow University, which he entered in 1746. An interesting bit of succession may here be pointed out. Cullen taught Black; Black taught Thomas Thomson, a gentleman to whom we shall presently refer; Thomas Thomson taught Graham, afterwards Master of the Mint and for some time Professor of Chemistry in Anderson's College; Graham had amongst his pupils a young man, Joseph Lister, who was destined to change completely the whole aspect of medical science, and thus to teach the world. Oddly enough, the whole of these men were connected with the Glasgow school, and their names all appear on the list of Fellows of the Faculty of Physicians and Surgeons.



DR. JOSEPH BLACK.

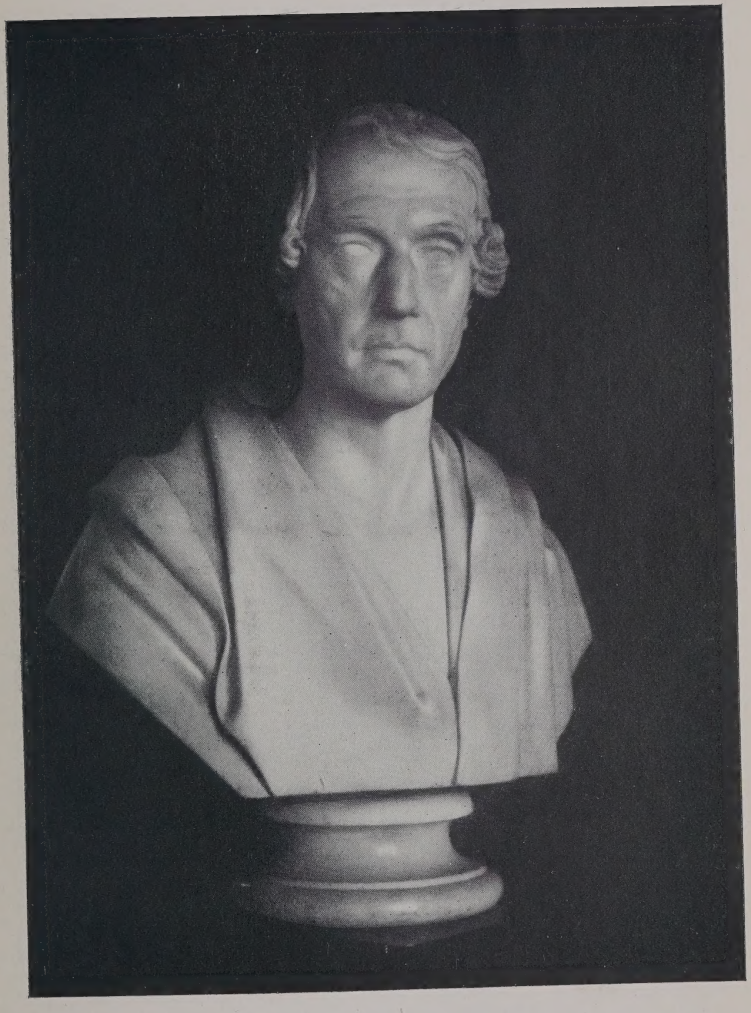
Unquestionably Joseph Black owed a great deal to Cullen, whom he succeeded in the Glasgow Chair when Cullen went to Edinburgh. It was during the tenure of that Chair that he first published his observations on latent heat. Little does the modern boy at our Technical College, when he grinds up the facts of latent heat in his ordinary text-books of physics, associate the phrase with a Glasgow professor, yet the fact is indisputable. Amongst his pupils at that time was James Watt, and we imagine that a good deal of Watt's success in the application of the principles of thermo-dynamics depended upon his being associated with Joseph Black.

Thomas Thomson was Professor of Chemistry in the University of Glasgow, a native of Crieff, and educated at the Universities of St. Andrews and Edinburgh. He was an Edinburgh graduate, and took his M.D. in 1799. That he had attained considerable distinction before that period is shown by the circumstance that in 1796 he succeeded his brother as the editor of the *Encyclopædia Britannica*. He is chiefly to be remembered by the facts that he was the introducer of the oxy-hydrogen blow-pipe, and also the introducer of chemical symbols and chemical equations. He did a considerable amount of chemical work in Edinburgh, but in 1817 he came to Glasgow and was appointed to the Chair of Chemistry in 1818, which Chair he held till 1852. Although he was a doctor of medicine he does not seem to have practised, at anyrate, in the city of Glasgow, otherwise than by holding the post of physician to the Glasgow Royal Infirmary. He certainly was a chemist of considerable reputation, and a great ornament to the school in which he was a successful teacher. My father, as a young man, attended the chemical lectures of Thomas Thomson. One of his recollections of that class was to the effect that the Professor used to relate how he had walked all the way from Edinburgh to Glasgow, in order to see the Tontine illuminated

by coal gas. It was in the year 1808 that the Tontine was first lit with coal gas, and that gives us approximately the date of the Professor's pilgrimage. One other story my father use to relate about him was how that in the early days of steam navigation the worthy man had taken a trip down the Firth of Clyde in one of the numerous paddle steamers. During the voyage he purloined a bucket and a rope and got out on the wing of the steamer for the purpose of drawing a sample of water after it had passed the paddle wheel. One factor of the experiment had not been taken into account, and that was the traction to which the professorial body would be subjected directly the bucket touched the water. In less time than it takes to narrate he was drawn over the side, and was with much difficulty rescued from a perilous situation. I have often wondered what was in his head at the time he wished to make such investigations. He certainly wanted a sample of water after it had passed the paddle wheel, and the question arises, did he wish to examine it as to difference of temperature or as to difference of specific gravity? Was he groping in the dark after the facts subsequently so brilliantly demonstrated by Joule of Manchester? That he was popular with his professional brethren and with the practitioners in Glasgow is amply shown by the fact that he was the first chairman of the Glasgow Medico-Chirurgical Society, which was founded in 1844.

Passing down the line we come to Graham, whose position as a chemist and as a physicist is acknowledged all the world over. He was born in Glasgow in 1805, and was educated at the Universities of Glasgow and of Edinburgh. His work was almost entirely in the domain of physics and chemistry, and I fear had almost no special bearing on medical work.

It is characteristic of the times in which he lived that he had to become a Fellow of the Faculty of Physicians and



THOMAS GRAHAM.

Surgeons in order to lecture on chemistry to medical students in Glasgow, otherwise his lectures on the science of chemistry would not have been recognised for purposes of qualification. Those who have read the life of Cullen cannot help being aware how intimately the science of chemistry was bound up with medicine; indeed, the chief investigators in this branch of science were many of them medical practitioners. It is to this circumstance that Graham's lectures would not have been recognised unless he had a medical qualification that the Faculty of Physicians and Surgeons has the great honour of having had him at one time as a Fellow.

In his time there was no more outstanding physicist and chemist than Graham, and his memory is perpetuated in our midst by the Graham Lecture Fund, which is administered by the Royal Philosophical Society. He never was a teacher in the University, but held the Chair of Chemistry in Anderson's College. In 1837 he removed to London, and was appointed to University College, and in 1854 he became Master of the Mint. His great work on the diffusion of liquids appeared in 1846. The old Andersonian had at different times on its staff three of the greatest chemists of this country, namely, Thomas Graham, Frederick Penney, and William Dittmar. Graham died so recently as 1869.

Graham taught Lister when the latter was studying in University College. Lister was a London student. After graduation he came to Edinburgh for the purpose of studying with Syme, whose daughter he subsequently married, and from Edinburgh he passed to Glasgow as Professor of Surgery. It is impossible and unnecessary in this short communication to do more than refer in the briefest manner to the great influence for good which Joseph Lister has had on surgical practice. It is no exaggeration to say that no man has ever lived whose work has done so much alike for the alleviation of suffering and the prevention of death. Surgical practice

before his time was awful. Since his discoveries surgical handicraft has been robbed of its terror, and made one of the greatest ministers to humanity. The interesting point for a Glasgow audience is that it was entirely during his time in Glasgow in the Chair of Surgery that Lister introduced what he called his antiseptic method. Before his time a major operation, such as an amputation, almost certainly meant death from what we now call septic infection. To-day it is one of the simplest of processes, and a surgeon who had any considerable percentage of fatalities after major operations would at present do well to retire from practice. Lister is a good example of the triumph of the scientific man over what is generally called his practical colleague. He began life on its scientific side.

He worked at chemistry with Graham, and was well acquainted with Pasteur's researches on fermentation; amongst his own earliest writings are some very interesting papers on the effect of light on the pigment of the frog's skin. These were published in the philosophical transactions of the Royal Society. That was the type of man who ultimately tackled the problems of surgery. At a meeting I myself heard him say, with his usual modesty, that the nine happiest, and, he might perhaps say, most useful years of his life, had been spent in the city of Glasgow, for it was during these nine years that he had attempted to adapt to surgical practice those great biological principles which we owe to Louis Pasteur. These are nearly the *ipsissima verba*, and they seem to me absolutely to sum up the change which he made on surgical practice. He knew from Pasteur's observations that organic fluids become putrescent when exposed to atmospheric air. He also knew that if an organic fluid was thoroughly sterilised and was hermetically sealed putrefaction was impossible. His keen penetrating mind thought that suppuration and pyæmia, and, in fact, all the disastrous results of operation, might be explained in the

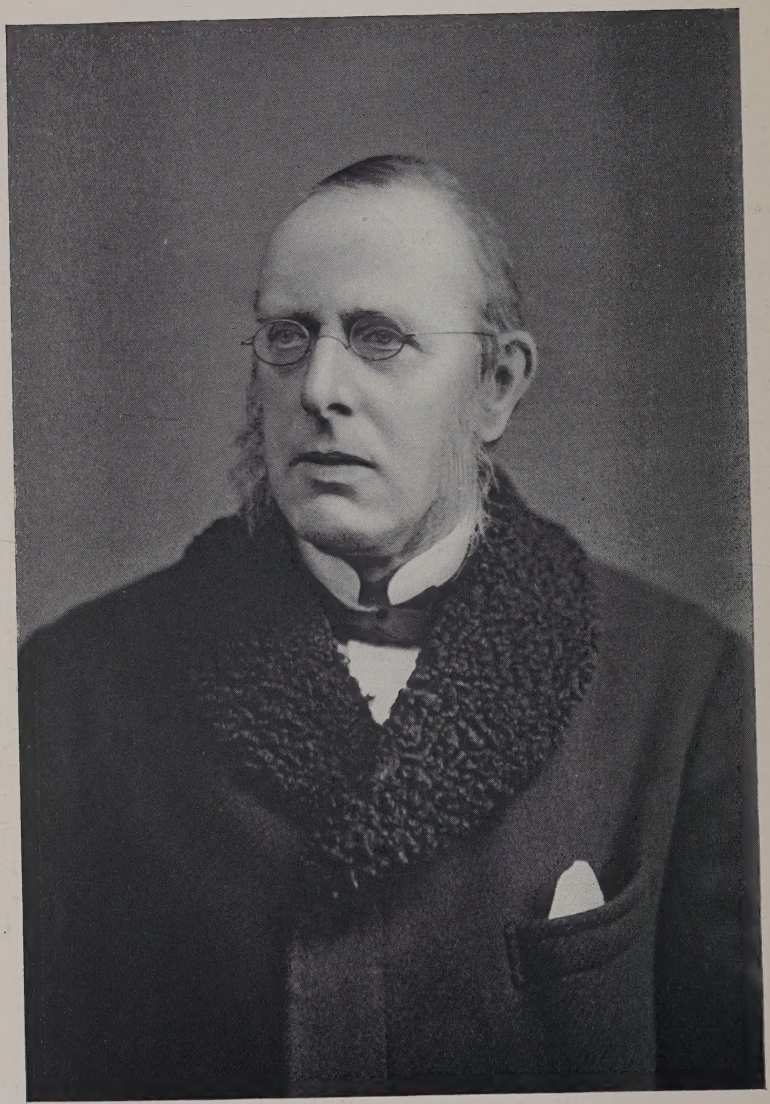
same manner as the putrefactive changes in organic fluids exposed to atmospheric air, namely, by the influence of germs. If ever there was a man sensitively conscious in his work it was Joseph Lister, and I well remember hearing a gentleman who had been resident surgeon with him at the Royal Infirmary endeavouring to describe his terrible anguish of mind when case after case of amputation died from pyæmia.

That anguish, though no doubt hard to bear by so refined and gentle a nature, still was prolific to humanity, for, as already indicated, it forced him to lay his finger on the sore spot, and to say that disaster in surgical procedure and after operative work was due to micro-organic life. His first important communication on this subject to his professional brethren locally was made on 17th April, 1868, to this Society, when, as the minute bears, "Professor Joseph Lister gave a lengthened exposition of the atmospheric germ-theory of putrefaction, and illustrated it by the exhibition of Pasteur's experiments with flasks containing urine." That was in the year 1868, and in 1869 Lister removed to Edinburgh. It would have been well for our school, for its reputation, and for its scientific status, could Lister have been persuaded to stay in our midst. A great school is not made by multiplicity of teachers; it is made by having one or two of the first rank. Ultimately London claimed him. He went to expound his views on surgical practice in King's College Hospital, and he has remained in London ever since, now, of course, in retirement. Probably no greater discovery has ever been made in the history of medicine, and it is some consolation to think, when Germany and other countries are quoted to us almost every day of our lives, and frequently on somewhat inadequate grounds, that the discovery of the circulation of the blood and the modern practice of surgery are entirely British, as is also the introduction of that form of prophylactic treatment known as vaccination.

Harvey, Jenner, and Lister form a triumvirate such as no other country can produce. An Anglo-Saxon also first introduced the giving of anæsthetics, although the country in which Morton worked was the United States. The ligaturing of vessels came from France. Under these circumstances we cannot but think that, on the whole, the Anglo-Saxon race, although not much given to patient hod-work, has well held its own in the advancement of medical science. Lister's high character, his extreme, almost painful modesty, and his deep thorough-going conscientiousness are commented upon by those who have had the great privilege of being brought into close contact with him. There has never been any other of the sons of men who has done so much to relieve pain, to prevent death, or whose services from the physical side have been of equal value to the human race; not only so, but the great improvements in the departments of public health and in the practice of physic are, in great measure, an extension of what is called Listerism.

In the foregoing I have traced what may be called the main current of Glasgow medical life, but there have been numerous other men whose distinction was great, and whom I wish to bring but for a short time under your notice. In the main, I think, the Glasgow school has all along done excellently. It has had a large supply of men who will compare very favourably with those of any other part of the world, but I only wish to speak just now of those who have attained special distinction.

My intimate friends know that when the gout is bad, or when there are other causes of irritation, I am not always given to speak favourably of the Lord Provost, Magistrates, and Town Council of this my native city in their corporate capacity. At the same time the de'il must be given his due, and I have great satisfaction in admitting that, with a few little exceptions, their public health department has been admirable. We have seen that Maister Peter Lowe got



J. T. Gairdner

a certain remuneration from the Council for attending the poor, and from time to time we find from records of the Faculty of Physicians and Surgeons, and from the burgh records, that certain gentlemen got remuneration for similar purposes, and, odd though it may appear, that there was an official stonecutter for the city of Glasgow. Two names stand out prominently in connection with the improvements in public health. These are the names of Sir William Tennant Gairdner and of Dr. J. B. Russell. Gairdner was a physician of world-wide reputation. He held the Chair of the Practice of Physic in the University of Glasgow. Fortunately he also was appointed to be the medical officer of health for the town, and in that capacity did some work of a very high order; he practically organised our public health department. Gairdner has been so recently removed from the scene of active life, and has left behind so many old students and friends, in whose affections he is enshrined for ever, that it is quite superfluous to give any detailed account of one who was held in such affectionate esteem and respect by his students.

He was an Edinburgh man, and, like Lister, began medical work on its scientific side, for he was pathologist to the Edinburgh Royal Infirmary. In those days pathology was regarded as being for the most part a means to an end, that end being such an improvement in the knowledge of disease as would lead to better methods of treatment. All Gairdner's work was done from the scientific standpoint—first there was close observation of phenomena, then there came their classification, followed by philosophic deduction. He was a man whose mind was ever open to receive any trace of light or of new truth, no matter from what source it came, but one who had little tolerance for anything empirical, and who always was in search for a sure foundation on which to build any new doctrine or practice. To him treatment was not the administration of the last thing which he had seen advertised

in a medical journal, nor the giving of the latest so-called remedy which had arrived in his consulting-room as a sample. He employed few drugs, for the simple reason that years of conscientious observation, and of checking of results, had shown him how limited is the sphere of action of many remedies. Nothing could have been more alien to Gairdner than the craze for finding out every few weeks a new drug which is to supersede everything else, and which enjoys a reputation for about a year, and then is never heard of more. Never was there an opener mind than that of William Tennant Gairdner, but it was a mind well-trained in scientific thought, and built on sound philosophic lines. Once the question was propounded to me, "Wherein was Gairdner a great teacher?" Now, the answer all depends upon the definition of a great teacher. If by a great teacher is meant a good coach, then, I think, Gairdner's most enthusiastic admirer would admit that he was not in that sense a great teacher. Grinding is not study, and a coach never gives a pupil the only basis on which permanent progress can be built—a philosophic view of the subject. If a good coach is the sole interpretation of a good teacher, then it must at once be admitted that Gairdner was no great teacher. If, however, it is instructive to youth to be brought into contact with one of the most philosophic minds of the time, to observe his extreme conscientiousness, his high ideals, to note the pains he takes, and the time spent in examining the minutest details, then Gairdner was in that sense pre-eminently the best teacher of his day. His systematic lectures could only have been produced by a man of great scholarship. There generally was a full statement of our present knowledge, and then a more or less critical disertation as to how that knowledge had been obtained. While the actual facts of a disease were always clearly stated, there generally accompanied such statements a most scholarly review of the gradual evolution of our knowledge of the

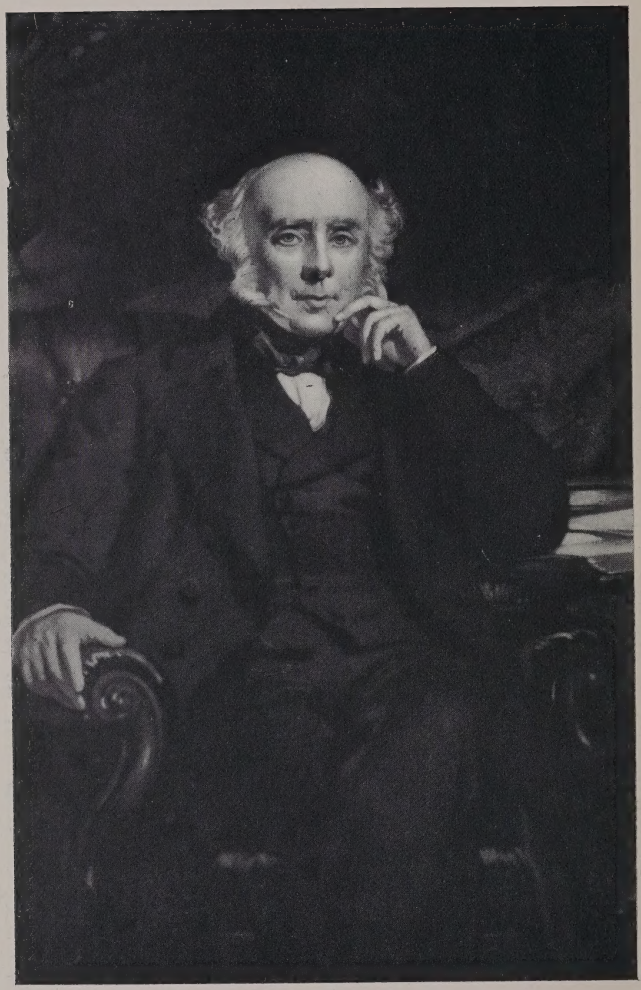
subject. A coach may tell you all that is necessary to know about scarlet fever for examination purposes in half a lesson by arranging all the symptoms in a numerical order, and give a variety of prescriptions with which to placate a poor examiner. That was not how Gairdner taught. Under such a heading as scarlet fever he would certainly have given a very full account of all the signs and symptoms of the disease, of the variations which these were apt to present, of the difficulties of sometimes recognising the presence of the malady. He probably would have given a critical account of the necessity for such a disease being dealt with by the public health authorities. He would have discussed the treatment fully under the heading of prophylaxis, and of the alleviation of the patient chiefly by the judicious assistance of the *vis medicatrix naturæ*. On one point almost all the students who passed through his hands were quite agreed, and that was that there was no teacher in the University the least like him. A man whose enthusiasm for his subject, whose simplicity of character, and whose zeal to inquire into the minutest point of every case, commanded the respect and affection of his pupils. It was like Gairdner to resign his Chair when he found that his eyesight no longer enabled him to undertake bacteriological investigations, which investigations he believed to be of primary importance to the modern medical student. He was essentially a physician who was a naturalist, and wished all his pupils to build on the one sure and satisfactory basis of progress —scientific truth.

In addition to discharging in the most conscientious manner the duties of his Chair, Gairdner, as already mentioned, was Medical Officer of Health to Glasgow, being the first man to hold the appointment, and the work which he did in that capacity was, to a very great extent, pioneer work, and was of the greatest importance to the community. Not long ago my friend, Dr. John

Brownlee, whose right to speak with authority on such matters no one will question, said to me that in the public health department of Glasgow he still met Gairdner at every corner.

The consensus of opinion of students is of great value, and emphatically Gairdner was held in the highest esteem, alike for his great scholarship, his superb ethic, and his whole-hearted devotion to the duties of the Chair.

Under the administration of Dr. J. B. Russell the public health department of Glasgow, founded by Gairdner, became one of the foremost in the world. It is almost impossible to imagine what the condition of the city was then when we only know it as it is at present. Well do I remember the terrible accounts which my father used to give of the outbreaks of typhus fever when he was a young practitioner in the Anderston district. He told me that out of a single tenement in Washington Street, in one winter, he sent no fewer than sixty persons to the fever hospital smitten with typhus fever. When we consider that one out of every three of these patients died we have a terrible picture drawn. Had we sixty patients ill with typhus fever at one time in Glasgow we would at present think that we were in a very bad way; but so rife was it at the time to which I refer that no life assurance company would take the risk of a young doctor starting practice in Glasgow till he had had typhus fever. Then, again, we have another important item. The death-rate from consumption in Glasgow has gone down enormously within the last half-century, and I think we may well claim, without any undue exaggeration, that these great changes were brought about by the administrative zeal and by the professional insight of Sir William Gairdner and Dr. J. B. Russell. They guided the Corporation in the administration of the fever hospitals, and laid the foundation of the whole of our public health department.



DR. WILLIAM MACKENZIE.

In other respects, also, many Glasgow practitioners have attained considerable fame. Probably the first successful ovarian operation was performed by a Fellow of the Faculty. Such operations, I understand, are generally supposed to be of comparatively recent date, and are usually attributed to Dr. M'Dowell, of Kentucky; yet more than a century before M'Dowell's operation Robert Houston, a Fellow of the Faculty of Physicians and Surgeons of Glasgow, performed an ovarian operation in the county of Renfrew. Houston became an M.D. of the University of Glasgow in 1711; subsequently he settled in London, and was admitted a Fellow of the Royal Society in 1725. The details of Houston's operation, and a short biographical sketch of him, are to be had in Dr. Duncan's history of the Faculty.[1]

Any sketch of the Glasgow medical school, however fragmentary, must make mention of Dr. Andrew Buchanan, who preceded John Gray M'Kendrick in the Chair of Physiology. Physiology had not then become so specialised as it is now, and Dr. Buchanan not only filled the Chair of Physiology, but also occupied the position of surgeon to the Royal Infirmary of Glasgow with great distinction. Dr. Buchanan was a man of sound education, of great scholarship, and withal a most courtly gentleman. He was the first to give any scientific explanation of the simple phenomenon of the coagulation of the blood, and his papers on this important subject attained a world-wide reputation. They were published about the year 1844, and were the result of much painstaking research, and of scientific investigation. He also was the author of a special operation for lithotomy in which he used a rectangular staff. There are a few still living in Glasgow who were numbered amongst his patients, and he is remembered by them as a man who in his time was a very

[1] Houston's operation consisted in an incision through the abdominal wall, and, subsequently, the tapping of the cyst.

great ornament to the medical school of Glasgow. He had a son who died of fever caught in the hospital, and by his untimely death Glasgow was deprived of the services of a practitioner who would have attained a degree of eminence probably equal to that of his father.

William Mackenzie in his day was perhaps the most distinguished ophthalmic surgeon in the United Kingdom. He played a very prominent part in the medical life of Glasgow, and he attracted patients practically from all the world. He was born in Glasgow in 1791, and was educated at the Grammar School and University of his native place. After an attempt to begin practice in London he settled in Glasgow, and lectured on various subjects, such as anatomy, surgery, materia medica, medical jurisprudence, and diseases of the eye. He held the Chairs of Anatomy and Surgery in Anderson's College. In 1824 he co-operated with Dr. Monteath in founding the Glasgow Eye Infirmary, and in 1833 became an M.D. of the University of Glasgow. His practical treatise on the *Diseases of the Eye* ran through four editions in English, and was translated into German and French and Italian. He was the last of the great ophthalmic surgeons before the dawn of the new era, which unquestionably began with the introduction of the ophthalmoscope by Helmholtz in the year 1851. There are two distinct sides to ophthalmic work, the physical and the surgical. So far as it is concerned with surgery, ophthalmology has undergone a radical change, thanks to the modern biological pathology introduced by Lister. So far as the physical side is concerned, a radical change has also been wrought by the work of Helmholtz and of Donders, of Utrecht, so that the science now entirely differs in character and in outlook from what it was in the days of Mackenzie.

Mackenzie's work in ophthalmic practice was, therefore, chiefly done on its clinical side. He was a clinician of the very first rank, and made many contributions to the clinical

side of ophthalmology. Two of these are of special importance; he probably was the first to give a clear and definite clinical picture of glaucoma, and to his genius we also owe our first clear notions of sympathetic ophthalmitis. I can just remember the old man who died when I was about 10 years of age. Fortunately there is a fairly good collection of his works in the Glasgow Eye Infirmary, and there is a portrait of him by Macnee in the same institution.

Allen Thomson deserves particular notice. His name is held in much veneration by the older generation of present-day Glasgow practitioners. His forefathers, like those of many other great men, belonged to Paisley, in which town his grandfather was a weaver. His father was Professor John Thomson, of Edinburgh, and his brother was Professor William Thomson, of Glasgow. He himself held the Chair of Anatomy in Marischall College, Aberdeen; of the Institutes of Medicine in Edinburgh; and, lastly, that of Anatomy in Glasgow. His son, John Thomson, is at present Professor of Chemistry in King's College, London. He attained the distinction of being made a Vice-President of the Royal Society. His position as an anatomist is sufficiently vouched for by the fact that drawings from his preparations are still to be found in standard text-books. In his day he was one of the editors of Quain's *Anatomy*. Further, he was one of the early workers in the field of microscopic embryology. He was an eloquent lecturer, and a teacher held in the highest respect by his students. He is specially entitled to be held in grateful remembrance from the circumstance that he took an active, probably the most active, part in the founding of the Western Infirmary. He was held in high repute by all classes of society in the West of Scotland, and had it not been for his great influence it is quite possible that the Western Infirmary would never have existed. So far as we have observed there is no memorial of him in

the institution which, in a special way, he helped to call into being.

I have sketched briefly the history of the school, and have given you a glimpse of a few of the giants. There were many others perhaps not quite so big, but who all did credit to the West of Scotland. Dr. A. D. Anderson was a man who should not be forgotten in our midst. Harry Rainy filled with great distinction the Chair of Medical Jurisprudence. Robert Watt, also, calls for some particular notice. He was one of the men who had a scientific bent, for early in life he assumed a partner so that he might devote some time to physics and chemistry. He lived in Queen Street, and began in 1811 to lecture on medicine. For the use of his students he formed a medical library, of which in 1812 he printed a catalogue with subject-index. The utility of this struck him so forcibly that he set about enlarging the scope of his catalogue so as to embrace all medical works published in the United Kingdom. To medical books were finally added those on law, divinity, and the whole round of science and literature. Such was the mode of evolution of the *Bibliotheca Britannica.*

Amongst other incidents connected with the Glasgow school, it may be mentioned that Tobias Smollet served an apprenticeship in Glasgow to Mr. William Stirling and Mr. John Gordon, practitioners there. I do not know that he can be said to have added lustre to the strictly scientific side of medicine. John Moore is another name that ought not to be forgotten. He was a man of culture and refinement, a friend of Burns, and the author of *Zelucco*, but he is better known as the father of the heroic and distinguished soldier who outwitted Napoleon's best generals, and died at Corunna. Moore was for many a day in practice in Glasgow, and had his premises in the Trongate nearly opposite where the Tron steeple stands. Robert Perry, whose son may now be said to be the father of the profession in

Glasgow, while a practitioner in Glasgow was the first accurately to distinguish between typhoid and typhus fever.

Such is a very brief sketch of the more important details of the development of the Glasgow school of medicine. What it will be in the future no man can foretell, but we hope that the Glasgow training will tend to make men thoroughly sound and reputable practitioners, and, above all, trustworthy, honest, and truth-seeking men.

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